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<p>(21) International Application Number: PCT/HU99/00075 (22) International Filing Date: 3 November 1999 (03.11.99) (30) Priority Data: P 9802519 3 November 1998 (03.11.98) HU (71)(72) Applicants and Inventors: DROZDY, Győző [HU/HU]; Gébins u. 6/a, H-1124 Budapest (HU). KOCSIS, Tamás [HU/HU]; Hosszú u. 41/b, H-1203 Budapest (HU). (74) Agent: GÖDÖLLE, KÉKES, MÉSZÁROS & SZABÓ; Keleti Károly u. 13/b, H-1024 Budapest (HU).</p>		<p>(81) Designated States: AT, AU, BA, BG, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, HR, HU, IL, LU, NO, NZ, PL, PT, SE, SI, SK, SL, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>
<p>(54) Title: METHOD FOR DIGITALLY TRANSFERRING SHORT TEXT MESSAGE (SMS) TO TELETXT PAGE</p> <p>(57) Abstract</p> <p>Method for digital transferring short text messages (SMS) to the teletext pages associated with television broadcasting, in the course of which the short message is forwarded to the short message service centre (3) of a mobile telephone network, the short text message (SMS) is forwarded from the short message service centre (3) to a processing unit (5) in which it is converted to a format corresponding to the relevant teletext system, and the message (SMS) so processed is entered into the address range assigned to the message (SMS) in the teletext.</p> <pre>graph TD subgraph Mobile_System [Mobile telephone system] 1[1: Mobile phone] 2[2: Base station] 3[3: SMSC] 1 --> 2 2 --> 3 end 3 -- 4 --> 5 subgraph Teletext_System [Teletext system] 5[5: Processing unit] 38[38: Teletext editor] 5 --> 38 end 38 -- 6 --> 7 subgraph TV_System [Television broadcasting system] 7[7: Modulator] 8[8: Antenna] 9[9: Receiver] 7 --> 8 8 --> 9 end</pre>		

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METHOD FOR DIGITALLY TRANSFERRING SHORT TEXT MESSAGE (SMS) TO TELETEXT PAGETechnical Field

The subject of the invention is a method for digitally transferring short text messages (SMS) to teletext pages associated with television broadcasting, in the course of which the short message is forwarded to the short message service centre of a mobile telephone network.

Background Art

It is well known that through mobile telephone networks, for example through the well known GSM telephone system, short text messages can be sent, primarily to a mobile station (the unit of a telephone set and a SIM card) of a mobile telephone subscriber. Short text messages can be typed into the mobile stations, which are then transferred, at the time of forwarding the message, to a Short Message Service Centre (SMSC) whence the messages are transmitted to the desired mobile station. It is also well known further, that television programmes can be accompanied by text information, for example in the system known as teletext. This information comprises texts processed by a computer at the editing centre into pages or address ranges according to subjects, and these texts are added on the transmitter side to the television signal, so that they would appear on the screens of television sets on the receiver side.

The television programme directors frequently expect viewers to provide a feedback about the relevant television programme and the viewers themselves intend to forward their comments and opinions to the programme directors, and often wish their opinion to become public. These feedbacks may be given to the programme directors conventionally by mail or phone, and recently through the Internet. The feedback provided by mail is slow and unreliable. By phone, in most cases it is

impossible to contact the managers of the programme, due to the overloaded lines. The viewer does not necessarily have Internet availability, at the same time the process is hardware-intensive, and so access is difficult.

Disclosure of Invention

The purpose of the invention is to provide a solution by means of which the viewers' opinions and comments can be forwarded simply, rapidly and reliably to the programme directors and also to the general public.

We have recognised that for the purpose above the SMS (Short Message System) applied in the mobile telephone network and the teletext system accompanying a television broadcast can be adequately combined by means of the method according to the invention, the essential feature of which is that the required information is forwarded in the well known way in the form of a short text message to the short message service centre of a mobile telephone network, and according to the invention from the short message service centre it is transferred to a processing unit, in which the message is converted to the format (protocol) corresponding to the relevant teletext system. Next, the message so processed (SMS) is entered into the address range assigned to the message (SMS) in the teletext.

The advantage of this procedure is that it is fast, and it is practically received immediately by the teletext editor computer. In the processing unit, the SMS transmission protocol of the mobile telephone network is converted into the protocol of the respective teletext system.

A possible realisation of the method is that the short text message (SMS) is forwarded from the short message service centre through a data transmission line to the processing unit. In this method, there is a direct contact between the short message service centre of the mobile telephone network and the teletext editor computer.

According to another possible option, the short message (SMS) is transferred from the short message service centre through a mobile station, and then through its digital output to the processing unit. In this version there is no direct contact between the short message service centre and the teletext editor computer; the transmission is carried out through a mobile station.

Of course, the two data transfer variations can be used simultaneously, i.e. in addition to the data transmission line data transfer of short text messages can be carried out together by means of mobile stations.

The messages (SMS) received by the processing unit are stored, and then the stored messages are entered into the assigned address range of the teletext. One advantage of storing the message is that eventually congested messages can be received after queuing, and from there they can be edited to the teletext pages one by one. A further advantage is represented by the possibility of logging or archiving on the basis of the stored data, in order to retrieve certain messages later.

The stored messages are preferably displayed and checked by means of a computer, and only the approved messages allowed to be entered in the assigned address range of the teletext. In this way the incoming text messages can be checked for example from the aspect of excluding strong language.

It is also possible to attach additional digital text to the messages entered in the assigned address range of the teletext. In this way, short answers can be added to the various messages or for example messages rejected on course of the control and not introduced into the teletext can be shortly marked.

In order to make sure that the various short text messages can be well distinguished from each other or from the additional messages on the screen where the teletext is displayed, different colour information is attached to the sequential messages forwarded to the assigned address range of the teletext and to the attached additional text.

By means of the method according to the invention, not only the viewers' opinions and comments can be attached to the various programmes, but through the teletext screen public chat may also be conducted.

Brief Description of Drawings

A more detailed description of the method according to the invention is given through the implementation examples depicted by way of the following attached drawings as well, where

Fig. 1 shows the first way of data transfer of a short text message (SMS) through a data transmission line to the computer of the teletext system;

Fig. 2 shows the second way of data transfer of a short text message (SMS) to the teletext system computer through a mobile station;

Fig. 3 is the flow chart of converting the short message coming from the mobile telephone network so that it is compatible with the teletext system.

Best Mode for Carrying Out the Invention

Fig. 1 and Fig. 2 show two different simplified ways diagrammatically of forwarding short text messages for editing into a teletext system. In the figures, a short text message (SMS) is sent from the mobile station 1 to the teletext system. In the well known way, this message reaches through the base station 2 the SMSC short message service centre 3 of the mobile telephone network. From this service centre 3, the message can reach the processing unit 5 in two basic ways. The processing unit 5 is a complex unit performing several functions, which will be described more detailed below, in association with Fig. 3.

In the case of the embodiment shown in Fig. 1, the short message service centre 3 is connected through the data transmission line 4 with the processing unit 5. In the arrangement shown in Fig. 2, the SMSC short message service centre 3 is connected through the well known mobile station to the processing unit 5, where from the SMSC short message service centre 3 the message reaches through the base station 10 of the mobile telephone network the mobile station 11 of the teletext editorial office. The mobile station 11 has usually a data output, which can be connected through a line 12 with the processing unit 5.

Of course the SMSC short message service centre 3 of the mobile telephone network can be connected to the processing unit 5 simultaneously in the way shown in Fig. 1 and in the arrangement depicted in Fig. 2.

The data processing carried out in the digital processing unit 5 can be followed in the flow chart of Fig. 3. The digital processing unit 5 can be made of well known

parts. Preferably, the digital processing unit 5 is realised by means of a computer with external and/or internal interfaces needed for the implementation.

As it can be seen in the top section of Fig. 3, the message may reach the processing unit 5 in two different ways. On line 12, the message is received from the digital data output of the mobile station 11 as it is shown in Fig. 2, and then this message is subjected to a format conversion in the unit 31, i.e. the digital messages are converted from the mobile telephone network protocol to a computer-oriented binary format. The message so converted is stored in the memory 33, which is practically part of a teletext editor computer.

Similarly, the digital messages transferred through the data transmission line 4 are subjected to a format conversion in the unit 32, and then the so converted messages are also stored in the memory 33.

The further processing of messages so received and stored is optionally continued with the checking of the message 34. This practically means that the stored messages are read one by one from the memory 33, and then displayed on the computer screen. An operator decides whether the relevant message 35 is approved, i.e. whether the relevant message can be sent to the general public in the teletext pages, for example whether the substance of the message excludes strong language, does not contain advertising, etc. When the message 35 is rejected, it is not forwarded to the teletext, while in the case of approval the message 35 is forwarded to the teletext editorial office 38.

The approved messages optionally can be displayed for example on another computer 36, on which the operator may attach an additional message 37 to the message forwarded to the teletext editorial office 38, which additional message 37 is preferably displayed in a different colour. Such a message could be a response of the television programme editor to the viewer's comment.

It is to be noted, that the checking and the approval 35 of the message 34, and the attaching of an additional message (37) can be combined into a single operation carried out on the same computer. In addition, the spell-check of the message can also be performed, and the display format can be edited, for example by making the text justified or centred, the lower case letters can be converted into upper case letters, etc.

Next, the checked and approved message, which is possibly supplemented with an additional message is forwarded to the teletext editor unit 38, where the digital messages are entered into the address range or pages assigned to short text messages in the teletext, preferably with different colours. Next, the finished digital teletext information is added through the line 6 in the well known manner to the television signal 7.

Industrial Applicability

The television signal so generated and supplemented with the digital teletext information is transmitted in the well known way to the television receivers 9 by means of the transmitter 8 shown diagrammatically in Figs. 1 and 2.

CLAIMS

1. Method for digital transferring short text messages (SMS) to the teletext pages associated with television broadcasting, in the course of which the short message is forwarded to the short message service centre (3) of a mobile telephone network, **characterised** in that the short text message (SMS) is forwarded from the short message service centre (3) to a processing unit (5) in which it is converted to a format corresponding to the relevant teletext system, and the message (SMS) so processed is entered into the address range assigned to the message (SMS) in the teletext.
2. A method according to Claim 1, **characterised** in that the short message (SMS) is forwarded from the short message service centre (3) through a data transmission line (4) to the processing unit (5).
3. A method according to Claim 1, **characterised** in that the short message (SMS) is forwarded from the short message service centre (3) through a mobile station (11) and then through its digital output (12) to the processing unit (5).
4. A method according to any of the preceding Claims, **characterised** in that the messages (SMS) received by the processing unit (5) are first stored (33) and then the stored messages are entered in the assigned address range of the teletext.
5. A method according to Claim 4, **characterised** in that the stored messages are displayed and checked (34), and only the approved (35) messages are entered in the assigned address range of the teletext.
6. A method according to Claims 4 or 5, **characterised** in that an additional digital text is attached (37) to a message entered in the assigned address range of the teletext.
7. A method according to Claim 6, **characterised** in that different colour information is attached to the sequential messages entered in the assigned address range of the teletext and to the attached additional text.

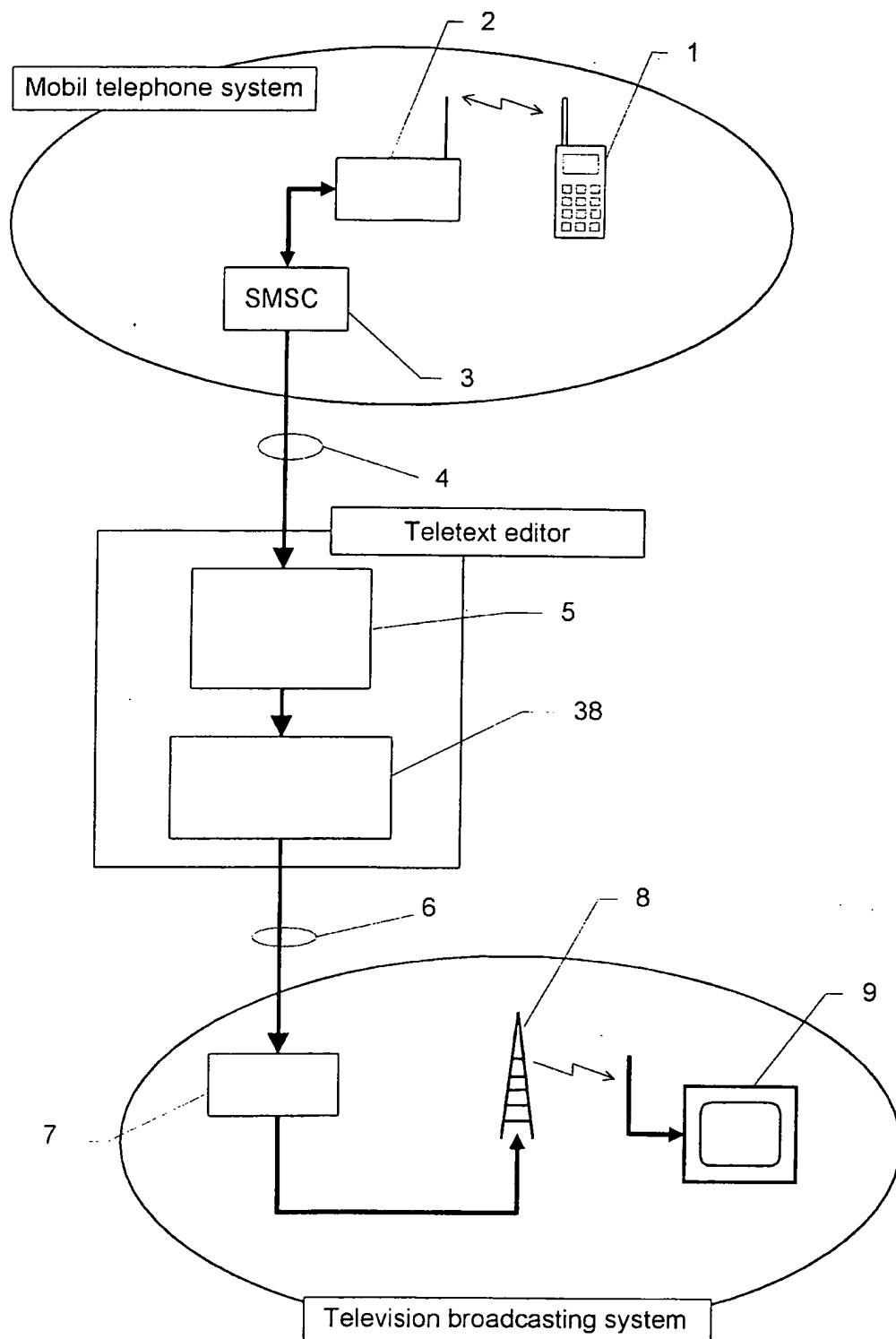


Fig. 1

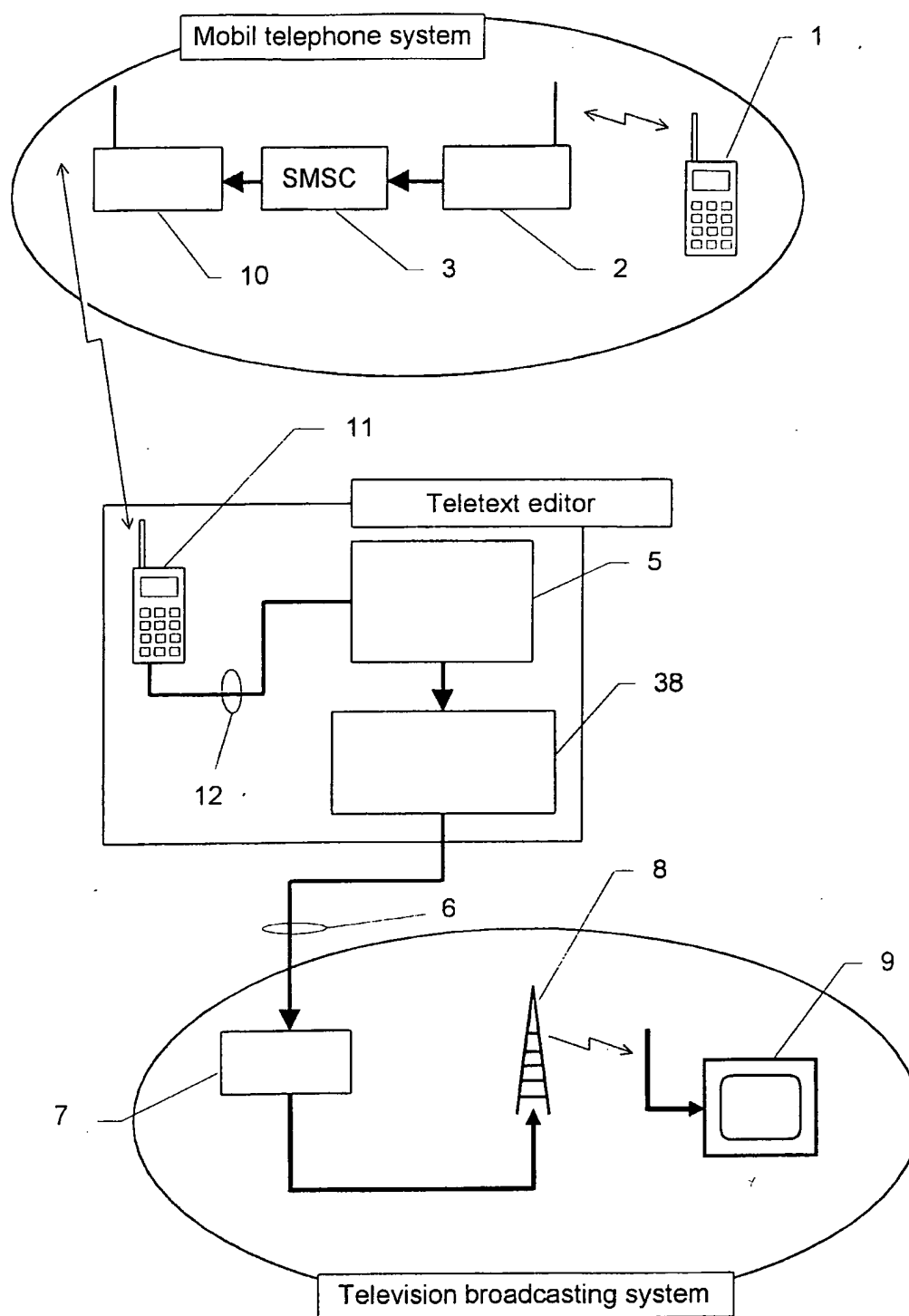


Fig. 2

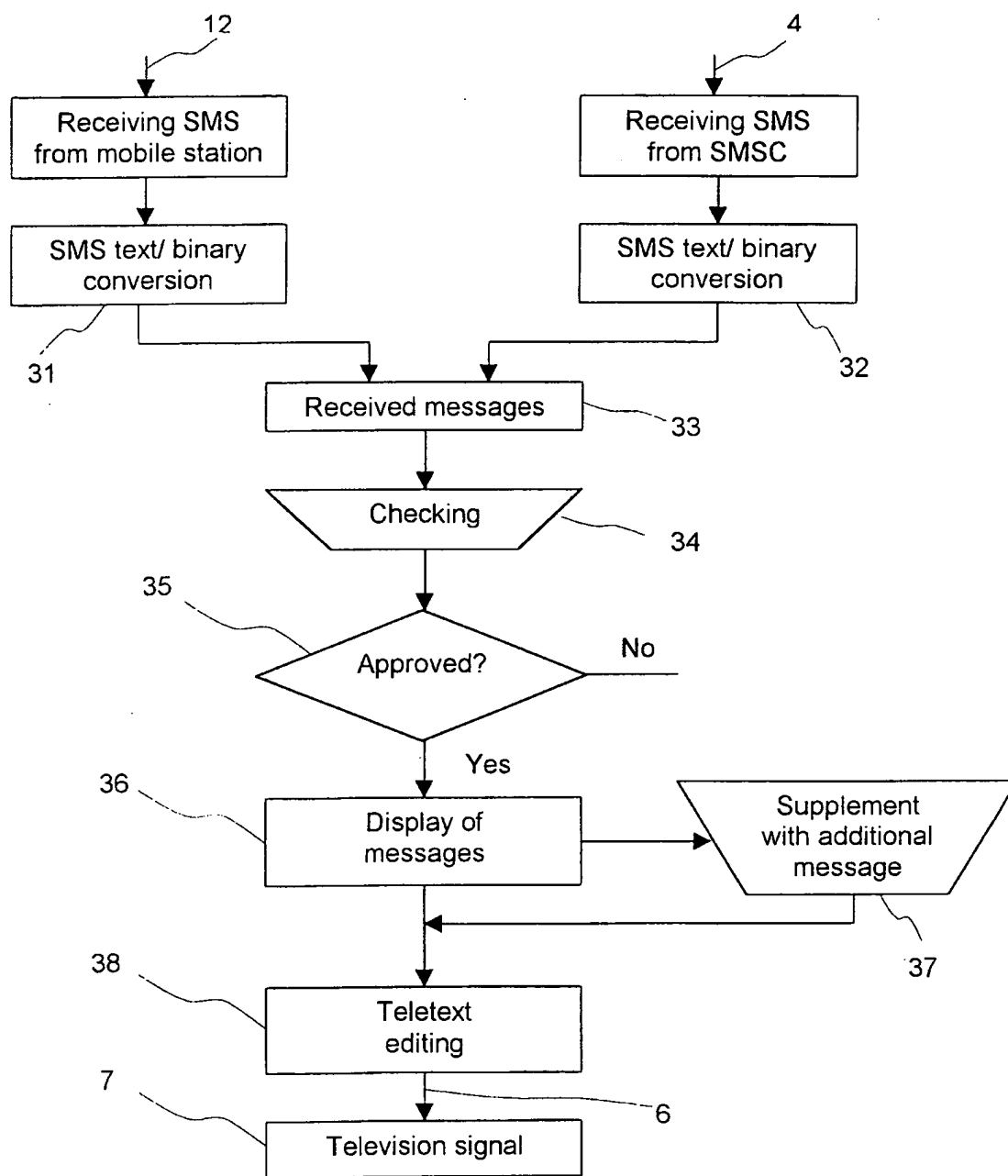


Fig. 3

INTERNATIONAL SEARCH REPORT

International Application No
PCT/HU 99/00075

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04N7/088		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04N		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 99 63729 A (NET 2 INTERAKTIV AS ;LAURITZEN FREDDY (NO)) 9 December 1999 (1999-12-09) page 2, line 30 -page 4, line 34 ----	1-5
P,A	EP 0 880 293 A (NEDERLAND PTT) 25 November 1998 (1998-11-25) column 4, line 22 -column 5, line 40; figure 1 ----	1
A	GB 2 294 608 A (TELSIS HOLDINGS LTD) 1 May 1996 (1996-05-01) the whole document -----	1
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9963729 A	09-12-1999	NONE	
EP 0880293 A	25-11-1998	NONE	
GB 2294608 A	01-05-1996	NONE	